

BTU INTERNATIONAL INC

Form 425

January 13, 2015

• The following is a presentation to attendees at Needham & Company's 17th Annual Growth Conference in New York, on Tuesday, January 13, at the New York Palace Hotel. Filed by: Amtech Systems, Inc. (File No. 000-11412) Pursuant to Rule 425 under the Securities Act of 1933 (deemed filed pursuant to Rule 14a-12 under the Securities Exchange Act of 1934) Subject Company: BTU International, Inc. (File No. 000-17297)

Important Information For Investors and Shareholders This communication does not constitute an offer to sell or the solicitation of an offer to buy any securities or a solicitation of any vote or approval. In connection with the proposed merger, Amtech Systems, Inc. ("Amtech") and BTU International, Inc. ("BTU") filed a registration statement on Form S-4 with the Securities and Exchange Commission (the "SEC"), containing a joint proxy statement/prospectus, relating to the proposed merger. Amtech and BTU also intend to file other relevant documents relating to the proposed merger with the SEC. The proposals for the proposed merger will be made solely through the joint proxy statement/prospectus, which was filed on December 23, 2014 with the SEC. **BTU AND AMTECH URGE INVESTORS AND SHAREHOLDERS TO READ THE JOINT PROXY STATEMENT/PROSPECTUS (INCLUDING ANY AMENDMENTS AND SUPPLEMENTS THERETO) AND ANY OTHER RELEVANT DOCUMENTS FILED BY EITHER PARTY WITH THE SEC BECAUSE THEY CONTAIN IMPORTANT INFORMATION ABOUT AMTECH, BTU AND THE PROPOSED MERGER.** Investors and shareholders of Amtech and BTU can obtain the joint proxy statement/prospectus and other documents filed with the SEC free of charge at the website maintained by the SEC at www.sec.gov. In addition,

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documents filed with the SEC by BTU will be available free of charge on the investor relations portion of the Company's website at www.btu.com. Documents filed with the SEC by Amtech will be available free of charge on the investor relations portion of the Amtech website at www.amtechsystems.com. Participants in the Solicitation This communication is not a solicitation of a proxy from any security holder of BTU or Amtech. BTU and its directors and executive officers, and Amtech and its directors and executive officers may be deemed to be participants in the solicitation of proxies from the holders of BTU and Amtech common stock in respect of the proposed merger and the transactions contemplated thereby. Information about the directors and executive officers of BTU is set forth in the proxy statement for BTU's 2014 annual meeting of stockholders, which was filed with the SEC on April 14, 2014. Information about the directors and executive officers of Amtech is set forth in the proxy statement for Amtech's 2014 annual meeting of stockholders, which was filed with the SEC on March 28, 2014. Investors and shareholders can obtain more detailed information regarding the direct and indirect interests of BTU's and Amtech's directors and executive officers in the proposed merger by reading the joint proxy statement/prospectus and any other relevant documents filed with the SEC.

Solar | Semiconductor | LED J.S. Whang Executive Chairman Fokko Pentinga President & CEO Brad Anderson Executive VP & CFO 3

This Presentation may contain certain statements or information that constitute “forward-looking statements” (as defined in Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended). In some but not all cases, forward-looking statements can be identified by terminology such as, for example, “may,” “will,” “should,” “would,” “expects,” “plans,” “anticipates,” “intends,” “believes,” “estimates,” “predicts,” “potential,” “con” negative of these terms or other comparable terminology. Examples of forward-looking statements include statements regarding Amtech System, Inc.’s (the “Company”) future financial results, operating results, business strategies, projected costs, products under development, competitive positions and plans and objectives of the Company and its management for future operations. Such forward-looking statements and information are provided by the Company based on current expectations of the Company and reflect various assumptions of management concerning the future performance of the Company, and are subject to significant business, economic and competitive risks, uncertainties and contingencies, many of which are beyond the control of the Company. Accordingly, there can be no guarantee that such forward-looking statements or information will be realized. Actual results may vary from any anticipated results included in such

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forward-looking statements and information and such variations may be material. No representations or warranties are made as to the accuracy or reasonableness of any expectations or assumptions or the forward-looking statements or information based thereon. Only those representations and warranties that are made in a definitive written agreement relating to a transaction, when and if executed, and subject to any limitations and restrictions as may be specified in such definitive agreement, shall have any effect, legal or otherwise. Each recipient of forward-looking statements should make an independent assessment of the merits of and should consult its own professional advisors. Except as required by law, we undertake no obligation to publicly update forward-looking statements, whether as a result of new information, future events, or otherwise. Safe Harbor Statement 4

Global supplier of solar & semiconductor process equipment technology and automation systems Headquartered in Tempe, AZ Global presence in NA, Europe, Asia Leading supplier of solar & semiconductor diffusion furnaces Leading edge platform driven by acquisition of technology and continuous innovation Successful deployment of next generation n- type cell Transformed from equipment supplier to technology provider Amtech Group 5

Amtech markets LEDSEMICONDUCTORSOLAR 6

Management Overview Member Position Experience 37 years of semiconductor & solar experience Siltronics U.S. Quartz J.S. Whang Executive Chairman 28
years of financial and public company experience Deloitte Zila Brad Anderson EVP & Chief Financial Officer Fokko Pentinga 30 years of semiconductor and
solar experience Tempres Systems President & CEO 7

Amtech Group business model Acquisitions 8 2009 2012 2013 2014 2015 2010 2011 HD-POCl3 3200 w/h production Gen 1 600MW n-PASHA production Batch PECVD 1850w/h Gen 2 100MW n-PASHA production Innovations PERC ALD combination with PECVD PID free PECVD Low cost Ion implanter 1994 2007 2010 2014 2015 1996 2004 The merger with BTU is anticipated to close in the first quarter of calendar 2015 and remains subject to shareholder approval of both companies.

Process Equipment Amtech Products & Applications Wafer Carriers, Templates & Polishing Tools Furnace Automation & Wafer Handling Systems LED & Silicon Wafers PECVD Furnace Diffusion, Annealing Furnace Ion Implanter Furnace Automation S-300 Templates Solar Cells & Semiconductor Chips 10 Carriers

Our integrated offering Solar value chain Solar Cell Silicon Ingot / Wafer Module Cleaning Texturing Diffusion Doping Screen Printing Metallization Edge Isolation Testing Sorting PSG Etching Removal AR Coating AMTECH GROUP Products Integrated Offering Partnerships Technology 11

Industrial Supplier 38% 62% Tempres Rest Sources: Internal data center Market share by Solar Buzz Research GW >500 systems at customers Production
capacity >24 GW Diffusion share >35% 0 5 10 15 20 25 30 2009 2010 2011 2012 2013 2014 Cumulative installed capacity 12

80+ PRODUCTION FACILITIES *With the courtesy of the above mentioned companies 13

R&D Installed base and Cooperations DIFFUSION • POCl₃ • BBr₃ • Annealing • Oxidation DEPOSITION • PECVD ARC • Ox-Poly DIFFUSION • Oxide • POCl₃ • BBr₃ • Solid source Doping • Sintering / Alloying • Annealing / Drive-In DEPOSITION • Poly Silicon • SIPOS • PECVD Nitride, Oxy-Nitride • LPCVD, LS Nitride, Oxy-Nitride • TEOS • LTO • HTO • Ta₂O₅ S E M I S O L A R 14

WAFERS: Higher efficiency n-type & High Performance-multi CELLS: Higher efficiency Rear side contact and PERC Wafer / Cell type From: ITRPV
roadmap, 2014 2014 2024 2014 2024 Rear BSF PERC Rear contact N-mono P-mono HP-multi Multi 15

Technology forecast – long term IHS and ITRPV forecast that n-type applications will mature and find their way into mainstream manufacturing. Looking forward, n-type will be mostly a mono crystalline technology, growing from 8 percent of total cell production capacity to approximately 29 percent by 2020. 16

Generations of technologies Standard p-type multi/mono (2006 – 2012) – cell efficiency 18% inspection Texture POC13 Single side etch PECVD Print/fire/Flash
PERC multi or mono (2013 – 2018) – cell efficiency 19 – 20% inspection Texture POC13 Single side etch PECVD front Print/fire/FlashALD AlOx PECVD rear Laser
N-type mono (2014 – 2024) – cell efficiency 21 – 23% inspection Texture BBr3 Single side etch PECVD front Print/fire/FlashImplant PECVD rear Anneal ox 1.
Innovation 2. Acquisition 3. Technology e 17

>50% of the global population and politicians believe in the need for clean energy. Solar is becoming global and demand from the global emerging market for 2013 reached ~8GW and is growing. Solar annual demand is expected to grow from 38GW in 2013 to 100GW in 2018. Supply-Demand Equilibrium to be achieved within the next 12 months. Solar Fundamentals 18

During the downturn – Financial Management Strong financial position Flexible supply chain 40 years experience with cyclic market developments in Semi
Careful investments in upturn to preserve cash USD in millions 0 10 20 30 Debt Cash Mi ll io n s Cash/Debt (November 2014) 19

QUANTUM platform Kingstone IonSolar SPECTRE platform PECVD SiNx, SiO2 LPCVD Poly Multi Mono POC13 HD POCL3 BBr3 Annealing Oxidation
R&D system p-type / n-type IBC During the downturn – Development p-type / n-type 20

Solar | Semiconductor | LED AMTECH SYSTEMS TO ACQUIRE BTU INTERNATIONAL ANNOUNCED October 22, 2014 21 The merger with BTU is anticipated to close in the first quarter of calendar 2015 and remains subject to shareholder approval of both companies.

Tempress Diffusion Kingstone IonSolar Tempress SPECTRE PECVD SiNx, SiO₂ LPCVD Poly Mono Crystalline POCl₃ HD POCL₃ BBr₃ Annealing Oxidation
R&D system p-type / n-type IBC p-type / n-type Multi Crystalline SoLayTec InPassion ALD ALD Al₂O₃ p-type / n-type PERC, IBC, n-Pasha 23 Expansion of
Served Available Markets

Serve top players in Analog and Power Chip Sectors, including #1 Infineon, Texas Instruments (including TI Aizu and Miho), Analog Devices (ADI), Samsung, UMC, Vanguard, SEH, SUMCO, Dongbu-ANAM, Soitec Potential migration from 6”(2/3rd) to 8”(1/3rd) to 12” wafers Longer term opportunity 24 Semiconductor & LED Analog / Power Chip Sector LED & Optics LED consumable growth LED and Optics equipment opportunities

Annual Order Trend (solar/semi) 34 13 26 40 28 22 27 73 22 162 200 13 34 0 50 100 150 200 2008 2009 2010 2011 2012 2013 2014 Solar \$107M \$61M \$35M
\$188M Fiscal Year (Oct. 1 – Sept. 30) \$240M \$41M Semi \$44M 26

Sept 30, 2014 Balance Sheet – Financial Strength Total Cash \$29.7 Working Capital \$32.3 Total Assets \$89.9 Total Debt \$0.0 Total Liabilities \$36.3 Stockholders' Equity \$53.6 27

Transaction Rationale Highlights 29 Greater scale, operating efficiencies and end market diversification Combination reinforces Amtech's solar growth opportunity BTU's Semi Reflow business is ~\$40 million of revenue and a consistently profitable business BTU's non-Semi Reflow business offers potential upside opportunity Transaction is expected to be accretive to Amtech's FY2015 non- GAAP EPS Combined business is expected to generate \$4-5 million of annual operating expense savings within 12 months post-closing

Combines Leaders in Innovation Financial: Overview: Founded: 1981 1950 Headquarters: Tempe, AZ North Billerica, MA Employees(1): 267 Employees 290 Employees Intellectual Property(2): 71 Patents 56 Patents LTM Revenue: \$43.6 \$51.1 LTM Gross Margin: 28.0% 34.5% Global supplier of solar and semiconductor process equipment technology and automation systems Leading supplier of solar diffusion furnaces Platform driven by acquisition of technology and continuous innovation Proven leader in capital equipment for the electronics assembly / semiconductor packaging industry Strongly positioned as capital equipment and process provider to the alternative energy industry(1) Latest Amtech and BTU 10K filings. (2) Includes issued and pending. Note: LTM financials are as of June 30, 2014. 30

Summary of Transaction Terms 31 Pro Forma Ownership Anticipated Close Conditions Leadership 76% Amtech shareholders; 24% BTU shareholders on a fully diluted basis Q1 2015 Amtech and BTU Boards have approved the transaction Customary closing conditions and regulatory approvals J.S. Whang, Executive Chairman; Fokko Pentinga, CEO; Brad Anderson, CFO 1 additional new board member: Paul van der Wansem, current CEO of BTU Peter Tallian will be GM of BTU International division Terms Each share of BTU will be exchanged for 0.3291 shares of Amtech Transaction Amtech Systems, Inc. ("Amtech") to acquire 100% of BTU International, Inc. ("BTU") common stock Consideration All stock acquisition valued at \$32.5 million or \$3.33 per BTU share(1) (1) Based on Amtech's closing price of \$10.13 on 10/21/2014.

Transaction Rationale Detail 32 Combination brings together two leaders in thermal processing equipment Consistent with Amtech's strategy of pursuing strategic acquisitions that complement the existing platform Broader product portfolio Semi Reflow products critical to the electronics assembly and semi packaging market Portfolio of solar and other complementary thermal-based products Expands Amtech's served available markets Stronger footprint in China Expected to be immediately accretive to gross and operating margins with significant operational synergies Accretive to Amtech's FY2015 non-GAAP EPS

Amtech Suite of Products Amtech Suite of Products Broad Portfolio of Thermal Process Technologies Furnace & Automation 33 Semiconductor Solar Other
Diffusion, Annealing Furnace Ion Implanter Amtech Polishing LED Templates Carriers PECVD Furnace BTU High Temp BTU Suite of Reflow Products Semi
Packaging SMT BTU Suite of Products Inline Annealing Furnace Metallization Walking Beam Custom and Belt Systems

34 Diversified End-Markets Semi Reflow Solar Polishing Other Semi Pro Forma LTM Revenue \$94.7M Note: LTM financials are as of June 30, 2014. Solar Polishing Semi LTM Revenue \$43.6M Semi Reflow Solar Other LTM Revenue \$51.1M
